Lab Assignment
& Solution

Cybersecurity Professional Program

Introduction to Python
for Security

Data Types
& Conditions

PY-02-LS3
Advanced Conditions

Note: Solutions for the instructor are shown inside the green box.

Lab Objective

Understand how to write code with advanced conditions and basic error handling.

Lab Mission

Practice using advanced conditions and handling out-of-range values.

Lab Duration

10–20 minutes

Requirements

- Working knowledge of PyCharm projects and creating new Python files.
- Working knowledge of how to handle inputs.
- Working knowledge of variables and if-else statements.

Resources

- Environment & Tools
    - Windows, Linux, macOS
        - Python 3
        - PyCharm

Textbook References

- Chapter 2: Data Types & Conditions
  - Section 1: Variables and User Output
  - Section 2: Operators and Casting
  - Section 3: Conditions

Lab Task

Write code that asks the user to provide a score for an exam as input and checks what grade the score is associated with. (Example: a score higher than 90 is an A.)

Remember: Before you start, you need to create a new Python file in an existing or newly created project.

1 Request the user to input a grade and assign it to a variable named **grade**.

```
grade = input("Enter a grade: ")
```

2 Convert the variable **grade** into an integer.
Note: Add the command ***int()*** to the code line from step 1.

```
grade = int(input("Enter your grade: "))
```

3 Create a condition that checks if the grade is equal to or higher than 90 and if so, print **A**.

```
if grade >= 90:
  print("A")
```

4 Continue the condition to check if the grade is equal to or higher than 80, and if so, print **B**.

```
elif grade >= 80:
  print("B")
```

5 Continue the condition to check if the grade is equal to or higher than 70, and if so, print **C**.

```
elif grade >= 70:
  print("C")
```

6 Continue the condition to check if the grade is equal to or higher than 65, and if so, print **D**.

```
elif grade >= 65:
  print("D")
```

7 Continue the condition to check if the grade is equal to or higher than 0, and if so, print **F**.

```
elif grade >= 0:
  print("F")
```

8 Finally, the code should print an error message if the user inserted an invalid number, such as a negative number.

```
else:
  print("ERROR: Grades cannot be negative numbers or
words.")
```

9 The final result is shown below.

```
grade = int(input("Enter your grade: "))
if grade >=90:
    print("A")
elif grade >=80:
    print("B")
elif grade >=70:
    print("C")
elif grade >=65:
    print("D")
elif grade >=0:
    print("F")
else:
    print("ERROR: Grades cannot be negative numbers or
words.")
```